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(71) Applicant (for all designated States except US): DANIELI & C. OFFICINE MECCANICHE S.P.A. [IT/IT]; Via Nazionale, 41, I-33042 Buttrio (IT).

(72) Inventors; and

(75) Inventors/Applicants (for US only): VECCHIET, Fablo [IT/IT]; Via Trieste, 19, I-33059 Villa Vicentina (IT). PAVLICEVIC, Milorad [HR/IT]; Via Maniago, 4/C, I-33100 Udine (IT). POLONI, Alfredo [IT/IT]; Via G. Paolini, 29, I-34070 Fogliano Redipuglia (IT).

(74) Agent: GERVASI, Gemma; Notarbartolo & Gervasi S.p.A., Corso di Porta Vittoria, 9, I-20122 Milan (IT).

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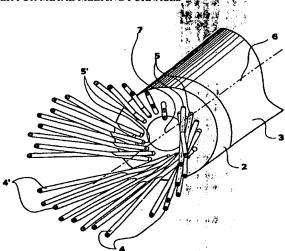
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(54) Title: INJECTOR-BURNER FOR METAL MELTING FURNACES



(57) Abstract: The following invention relates to an injector-burner for applications in the metalwork field, in particular for use in electric arc furnace melting processes having a frontal head with two series of holes arranged in two concentric crowns, the inner crown of holes used to feed fuel and the outer crown used to supply a supporter of combustion. A central hole is also provided, which is fitted with an oxygen injection nozzle. The holes of the two crowns are divided into groups separated by circular sectors without holes, in order to create a number of flames and are inclined in such a way as to give the gases supplied, and consequentially the flame generated, a rotation around the injector-burner axis. By regulating the flow-rates of the fuel and the supporter of combustion supplied to the various holes, the injector-burner is able to regulate the flame shape in burner mode and also in injection mode, thus guaranteeing optimum performance in all modes.



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INTERNATIONAL SEARCH REPORT PGT/配 03/07431 A. CLASSIFICATION OF SUBJECT MATTER IPC 7 C21C5/52 According to International Patent Classification (IPC) or to both national classification and IPC **B. FIELDS SEARCHED** Minimum documentation searched (classification system followed by classification symbols) C21C F23D Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data, PAJ C. DOCUMENTS CONSIDERED TO BE RELEVANT Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. Α US 6 289 677 B1 (SAMPATH PARTHASARATHY ET 1-27 AL) 18 September 2001 (2001-09-18) cited in the application column 3, line 4 -column 4, line 20; figures 3,4A,6,7 Α GB 2 064 094 A (BABCOCK PROD ENG) 1-27 10 June 1981 (1981-06-10) cited in the application claims 1,2; figures page 1, right-hand column, line 66 - line Α US 6 322 610 B1 (MORSUT STEFANO ET AL) 1-27 27 November 2001 (2001-11-27) the whole document X Further documents are listed in the continuation of box C. Patent family members are listed in annex. · Special categories of cited documents: T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention 'A' document defining the general state of the art which is not considered to be of particular relevance Y. document of particular relevance, the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone or document of particular relevance, the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *E" earlier document but published on or after the international 'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 3 March 2004 10/03/2004 Name and mailing address of the ISA Authorized officer European Patent Office, P.B. 5818 Patentiaan 2 NL - 2280 HV Rijswijk Tal. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016 Ceulemans, J

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